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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/705,564	11/10/2003	William Silver	C97-050 CON6	6509
23459	7590	12/16/2004	EXAMINER	
ARTHUR J. O'DEA LEGAL DEPARTMENT COGNEX CORPORATION ONE VISION DRIVE NATICK, MA 01760-2077			MARIAM, DANIEL G	
			ART UNIT	PAPER NUMBER
			2621	

DATE MAILED: 12/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/705,564

**Applicant(s)**

SILVER ET AL.

**Examiner**

DANIEL G MARIAM

**Art Unit**

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**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

**A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.**

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 122-152 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 122-152 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>11/10/2003</u> . | 6) <input type="checkbox"/> Other: ____.  |

### **DETAILED ACTION**

1. This application is a continuation of U. S. Patent Application Serial Number 09/746,147, which is now US Patent Number 6,658,145 issued on December 2, 2003.

#### ***Specification***

2. In page 2 of the amendment to the specification dated November 10, 2003, under the heading "Cross Reference to Related Applications", identifies U.S. Patent Application Serial Number 09/001,869 as being a continuation in part of U.S. Patent Application Serial Number 09/979,588. In fact, U.S. Application Serial Number 09/979,588 has no relation to U.S. Application Serial Numbers 09/746, 147 and/or 09/001,869, and appears to be an incorrect number. Appropriate correction is required.

#### ***Original Claims***

3. While applicants have canceled claims 1-120 of the originally filed claims by the amendment (See page 3 of the amendment filed on November 10, 2003), and have submitted newly added claims 121-151 (See pages 3-5 of the amendment), the originally filed claims in fact contain claims 1-121. Applicant should cancel originally filed claims 1-121.

#### ***Claim Objections***

4. The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

Misnumbered claims 121-151 have been renumbered as 122-152.

***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 122-152 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. For example, while independent claim 122 recites the limitation "A method for forming chains of edgelets, the edgelets being disposed within a two-dimensional array, each edgelet having a position and a direction, the method comprising: for each edgelet at a position in the two-dimensional array, examining neighboring positions so as to determine which neighboring positions contain a neighboring edgelet which can be connected to the edgelet at the position, the examining occurring in two phases, each phase including examination of an equal number of different neighboring positions", the specification says nothing about these features. In fact, *not a single page of the specification discloses these features and/or any of the remaining limitations recited in claims 123-152*, and thus, the claimed invention lacks support in the specification of the current application ('564) and/or the related applications identified above in paragraph 2.

***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 122-125, 144, and 149-152 are rejected under 35 U.S.C. 102(b) as being Miller, et al. (Template Based Method of Edge Linking Using a Weighted Decision).

Before advancing the detailed claim rejections, it will be helpful to briefly describe the Edge linking using a weighing system of Miller, et al. In the Abstract, Miller, et al links edges using a weighing system based upon on edge segment position, direction, and magnitude in deciding the optimal choice of which segments to link. The edge pixels are labeled and formed into edge segments, and the edge segments are then linked based on the decision of the weighing system.

With regard to claim 122, Miller, et al. discloses a method for forming chains, i.e., links, of edgelets, the edgelets being disposed within a two-dimensional array, each edgelet having a position and a direction (See for example, Abstract; and Figs. 1-3), the method comprising: for each edgelet at a position in the two-dimensional array, examining neighboring positions so as to determine which neighboring positions contain a neighboring edgelet which can be connected, i.e., linked, to the edgelet at the position, the examining occurring in two phases, each phase including examination of an equal number of different neighboring positions (See for example, page 1810, beginning from the section entitled “Edge Linking” through page 1812, right col. 1<sup>st</sup> paragraph).

With regard to claim 123, the method of claim 122, wherein each phase includes examination of four neighboring positions (See for example, Figures 2-3).

With regard to claim 124, the method of claim 122, wherein each phase includes examination of the different neighboring positions in a particular order (See for example, Figs. 3-4).

With regard to claim 125, the method of claim 124, wherein the particular order is dependent upon the direction of the edgelet at the position in the two-dimensional array (See for example, Figs. 4 and 5).

With regard to claim 144, the method of claim 122, connecting each edgelet at a position in the two-dimensional array with its right neighboring edgelet and its left neighboring edgelet, and performing a consistency check for each edgelet in a chain so-formed (Figs. 4 and 5).

With regard to claim 149, the method of claim 122, wherein the edgelets are disposed such that only one edgelet is disposed within each element of the two-dimensional Array (See for example, Fig. 2).

With regard to claim 150, the method of claim 122, wherein the edgelets are disposed such that more than one edgelet is disposed within some elements of the two-dimensional array (See Figs. 4 and 5).

With regard to claim 151, the method of claim 150, wherein one edgelet is selected within each element of the two-dimensional array having more than one edgelet (See Figs. 4 and 5).

With regard to claim 152, the method of claim 122, wherein for each neighboring edgelet that can be connected to the edgelet at the position in the two-dimensional array, a corresponding link is stored in association with the edgelet (See the section entitled "edge labeling and edge linking", pp. 1810-1811).

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***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US Patent Numbers: 3899771, 4213150, 4849914, 5559901, 5875040, and 6760483.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to DANIEL G MARIAM whose telephone number is 703-305-4010. The examiner can normally be reached on M-F (7:00-4:30) FIRST FRIDAY OFF.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, LEO BOUDREAU can be reached on 703-305-4607. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
**DANIEL MARIAM**  
**PRIMARY EXAMINER**

December 13, 2004